

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-37. (Canceled)

38. (Currently Amended) ~~A composition for coating or forming a medical device or coating a medicament,~~ the composition comprising:

at least one polymer;

a colloid comprising a plurality of oligodynamic metal compounds, wherein the oligodynamic metal compounds are a plurality of oligodynamic metal salts, a plurality of oligodynamic metal oxides, or at least one oligodynamic metal salt and at least one oligodynamic metal oxide, and wherein the oligodynamic metal compounds inhibit microbial adherence of one or more organisms to the composition; and

at least one active agent in addition to the oligodynamic metal compounds.

39. (Previously Presented) The composition of Claim 38, wherein the oligodynamic metal compounds create a zone of inhibition to the one or more pathogens when placed on a culture of the one or more pathogens.

40. (Previously Presented) The composition of Claim 38, wherein the oligodynamic metal compounds do not create a zone of inhibition to the one or more pathogens when placed on a culture of the one or more pathogens.

41. (Previously Presented) The composition of Claim 38, wherein the oligodynamic metal compounds comprise a silver salt.

42. (Currently Amended) The composition of Claim 41, wherein the silver salt is chosen from: silver chloride, silver iodide, silver citrate, silver lactate, silver acetate, silver propionate, silver salicylate, silver bromide, silver ascorbate, silver laurel sulfate, silver phosphate, silver sulfate, silver oxide, silver benzoate, silver carbonate, silver sulfadiazine, and or silver gluconate.

43. (Previously Presented) The composition of Claim 38, wherein the oligodynamic metal salt comprises a plurality of salts having different solubilities in water.

44. (Currently Amended) The composition of Claim 38, wherein the polymer is chosen from: polyurethanes, polyvinylpyrrolidones, polyvinyl alcohols, polyethylene glycols, polypropylene glycols, polyoxyethylenes, polyacrylic acid, polyacrylamide, carboxymethyl cellulose, dextrans, polysaccharides, starches, guar, ~~xanthan~~ xanthan and other gums, collagen, gelatins, biological polymers, polytetrafluoroethylene, polyvinyl chloride, polyvinylacetate, poly(ethylene terephthalate), silicone, polyesters, polyamides, polyureas, styrene-block copolymers, polymethyl methacrylate, polyacrylates, acrylic-butadiene-styrene copolymers, polyethylene, polystyrene,

polypropylene, natural and synthetic rubbers, acrylonitrile rubber, cellulose, ~~and~~ or mixtures, derivatives, ~~and~~ or copolymers thereof.

45. (Previously Presented) The composition of Claim 41, wherein the silver salt is silver chloride and the composition contains silver chloride present in an amount from about four to about six percent based on the total weight of solids in the composition.

46. (Currently Amended) The composition of Claim 38, wherein the at least one active agent ~~agents~~ are ~~is~~ chosen from: antibacterial agents, immune boosting agents, anticancer agents, angiogenic agents, polymyxins, antifungal agents, antiviral agents, antibiotics, growth factors, cytokines, immunoglobulins, pharmaceuticals, nutraceuticals, antithrombogenic agents, antitumoral agents, growth factors, antiangiogenic agents, spermicides, anesthetics, analgesics, vasodilation substances, wound healing agents, plant extracts, herbicides, insecticides, algacides, antifoulants, antifogging agents, UV screening agents, ~~and~~ or combinations thereof.

47. (Previously Presented) The composition of Claim 38, wherein the active agents are present in a concentration from about 0.1% to about 50% of the dry weight of the composition.

48. (Previously Presented) The composition of Claim 38, wherein the active agents are present in a concentration from about 1% to 30% of the dry weight of the composition.

49. (Currently Amended) The composition of Claim 38, wherein the active agents are chosen from: biguanides, chlorinated phenols, quaternary ammonium compounds, growth factors, cytokines, immunoglobulins, pharmaceutical agents, and or combinations thereof.

50. (Currently Amended) The composition of Claim 49, wherein the biguanides are chosen from: poly (hexamethylene biguanide) hydrochloride, a chlorhexidine compound, and or combinations thereof.

51. (Currently Amended) The composition of Claim 50, wherein the chlorhexidine compound is chosen from: chlorhexidine diphosphanilate, chlorhexidine digluconate, chlorhexidine diacetate, chlorhexidine dihydrochloride, chlorhexidine dichloride, chlorhexidine dihydroiodide, chlorhexidine diperchlorate, chlorhexidine dinitrate, chlorhexidine sulfate, chlorhexidine sulfite, chlorhexidine thiosulfate, chlorhexidine di-acid phosphate, chlorhexidine difluorophosphate, chlorhexidine diformate, chlorhexidine dipropionate, chlorhexidine di-iodobutyrate, chlorhexidine di-n-valerate, chlorhexidine dicaproate, chlorhexidine malonate, chlorhexidine succinate, chlorhexidine succinamate, chlorhexidine malate, chlorhexidine tartrate, chlorhexidine

dimonoglycolate, chlorhexidine mono-diglycolate, chlorhexidine dilactate, chlorhexidine ~~di- α -hydroxyisobutyrate~~ di- α -hydroxyisobutyrate, chlorhexidine diglucoheptonate, chlorhexidine di-isothionate, chlorhexidine dibenzoate, chlorhexidine dicinnamate, chlorhexidine dimandelate, chlorhexidine di-isophthalate, chlorhexidine isoethionate, chlorhexidine di-2-hydroxy-napthoate, chlorhexidine embonate, and or combinations thereof.

52. (Currently Amended) The composition of Claim 50, wherein the chlorhexidine compound is a chlorhexidine salt chosen from: acetates, formates, gluconates, hydrochlorides, isoethionates, lactates, and or succinamates of chlorhexidine.

53. (Currently Amended) The composition of Claim 49, wherein the chlorinated phenols are chosen from: parachlorometaxylenol, dichlorometaxylenol, triclosan (2,4,4'-trichloro-2 hydroxy di-phenyl ether), 2-chlorophenol, 3-chlorophenol, 4-chlorophenol, 2,4-dichlorophenol, 2,4,6-trichlorophenol, 2,3,4,6-tetrachlorophenol, pentachlorophenol, 4-chlororesorcinol, 4,6-dichlororesorcinol, 2,4,6-trichlororesorcinol, p-alkyl-o-chlorophenols, o-alkyl-p-chlorophenols, dialkyl-4-chlorophenol, tri-alkyl-4-chlorophenol, dichloro-m-xyleneol, chlorocresol, o-benzyl-p-chlorophenol, 3,4,6-trichlorophenol, 4-chloro-2-phenylphenol, 6-chloro-2-phenylphenol, o-benzyl-p-chlorophenol, 2,4-dichloro-3,5-diethylphenol, and or combinations thereof.

54. (Currently Amended) The composition of Claim 49, wherein the quaternary ammonium compounds are chosen from: benzalkonium chloride, benzethonium chloride, other benzalkonium or benzethonium halides, cetylpyridinium chloride, dequalinium chloride, N-myristyl-N-methylmorpholinium methyl sulfate, poly[N-[3-(dimethylammonio)propyl]-N'-[3-(ethyleneoxyethylene dimethylammonio)propyl]urea dichloride], alpha-4-[1-tris(2-hydroxyethyl)ammonium chloride-2-butenyl]-omega-tris(2-hydroxyethyl)ammonium chloride, alpha-4-[1-tris(2-hydroxyethyl)ammonium chloride-2-butenyl]poly[1-dimethyl ammonium chloride-2-butenyl]-omega-tris(2-hydroxyethyl)ammonium chloride, poly [oxy-ethylene(dimethyliminio)ethylene (dimethyliminio)-ethylene dichloride], ethyl hexadecyl dimethyl ammonium ethyl sulfate, dimethyl ammonium ethyl sulfate, dimethylethylbenzyl ammonium chloride, dimethylbenzyl ammonium chloride, cetyldimethylethyl ammonium bromide, and or combinations thereof.

55. (Currently Amended) The composition of Claim 38, wherein the active agents are antimicrobial, antiinfective, antiviral, and antibacterial agents chosen from: alexidine, gentamicin, tobramycin, amoxicillin, amphotericin, ampicillin, bacitracin, beclomethasone, benzocaine, benzoic acid, piperacil, aztreonam, betamethasone, biaxin, ceftazidime, ceftrimide, chloramphenicol, clarithromycin, clotrimazole, cyclosporin, doxycycline, erythromycin, ethylenediamine tetraacetic acid (EDTA), furazolidine, fusidic acid, gramicidin, povidone iodine, pluronic-iodine complex, macrolides, miconazole, minocycline, neomycin, nystatin, octenidine hydrochloride, ofloxacin, parachlorometaxylene, penicillin, pentoxifylline, phenolic compounds,

phenoxymethylpenicillin, picloxydine, polymixin, norfloxacin, oxolinic acid, ciprofloxacin; pefloxacin, enoxacin, AM-833, pipemidic acid, piromidic acid, 6,8-difluoro-1-(2-fluoroethyl)-1,4-dihydro-4-oxo-7-(4-methyl-1-piperazinyl)-quinoline-3-carboxylic acid, naladixic acid, rifampicin, sorbic acid, sulfamylon, sulfonamides, tetracycline, triclocarban, vancomycins, zithromax, derivatives, metabolites, salts, and or mixtures thereof.

56. (Currently Amended) The composition of Claim 49, wherein the growth factors are chosen from: transforming growth factor- α ("TGF- α "), transforming growth factor- β ("TGF- β "), vascular epithelial growth factor ("VEGF"), basic fibroblast growth factor, insulin-like growth factor (IGF), vascular endothelial growth factor (VEGF), and or mixtures thereof.

57. (Currently Amended) The composition of Claim 49, wherein the cytokines are chosen from: IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, TNF- α , TNF- β , and or combinations thereof.

58. (Currently Amended) The composition of Claim 49, wherein the immunoglobulins are chosen from: IgG, IgA, IgM, IgD, IgE, and or mixtures thereof.

59. (Currently Amended) The composition of Claim 49, wherein pharmaceutical agents are chosen from: nonoxynol 9, acebutolol, acetylcysteine,

acetylsalicylic acid, acyclovir, AZT, alprazolam, alfacalcidol, allantoin, allopurinol, ambroxol, amikacin, amiloride, aminoacetic acid, aminodarone, amitriptyline, amlodipine, ascorbic acid, aspartame, astemizole, atenolol, benserazide, bezafibrate, biotin, biperiden, bisoprolol, bromazepam, bromhexine, bromocriptine, budesonide, bufexamac, buflomedil, buspirone, caffeine, camphor, captopril, carbamazepine, carbidopa, carboplatin, cefachlor, cefalexin, cefatroxil, cefazolin, cefixime, cefotaxime, ceftazidime, ceftriaxone, cefuroxime, selegiline, chloramphenicol, chlor-pheniramine, chlortalidone, choline, cilastatin, cimetidine, cisapride, cisplatin, clavulanic acid, clomipramine, clozapine, clonazepam, clonidine, codeine, cholestyramine, cromoglycic acid, cyanocobalamin, cyproterone, desogestrel, dexamethasone, dexpanthenol, dextromethorphan, dextropropoxiphen, diazepam, diclofenac, digoxin, dihydrocodeine, dihydroergotamine, dihydroergotoxin, diltiazem, diphenhydramine, dipyridamole, dipyrrone, disopyramide, domperidone, dopamine, doxycycline, enalapril, ephedrine, epinephrine, ergocalciferol, ergotamine, estradiol, ethinylestradiol, etoposide, Eucalyptus globulus, famotidine, felodipine, fenofibrate, fenoterol, fentanyl, flavin mononucleotide, fluconazole, flunarizine, fluorouracil, fluoxetine, flurbiprofen, furosemide, gallopamil, gemfibrozil, Gingko biloba, glibenclamide, glipizide, Glycyrrhiza glabra, grapefruit seed extract, grape seed extract, griseofulvin, guaifenesin, haloperidol, heparin, hyaluronic acid, hydrochlorothiazide, hydrocodone, hydrocortisone, hydromorphone, ipratropium hydroxide, ibuprofen, imipenem, indomethacin, iohexol, iopamidol, isosorbide dinitrate, isosorbide mononitrate, isotretinoin, ketotifen, ketoconazole, ketoprofen, ketorolac, labetalol, lactulose, lecithin, levocamitine, levodopa, levoglutamide, levonorgestrel, levothyroxine, lidocaine, lipase, imipramine,

lisinopril, loperamide, lorazepam, lovastatin, medroxyprogesterone, menthol, methotrexate, methyl dopa, methylprednisolone, metoclopramide, metoprolol, miconazole, midazolam, minocycline, minoxidil, misoprostol, morphine, N-methylephedrine, naftidrofuryl, naproxen, nicardipine, nicergoline, nicotinamide, nicotine, nicotinic acid, nifedipine, nimodipine, nitrazepam, nitrendipine, nizatidine, norethisterone, norfloxacin, norgestrel, nortriptyline, omeprazole, ondansetron, pancreatin, panthenol, pantothenic acid, paracetamol, phenobarbital, derivatives, metabolites, and or mixtures thereof.

60. (Currently Amended) ~~An article~~ A medical device comprising the composition of Claim 38, wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, and or pacemaker leads.

61. (Currently Amended) ~~The article of Claim 38, wherein the~~ A medical device comprises comprising a substrate material and a coating on at least part of one or more surfaces of the substrate material and the coating comprises the composition of claim 38.

62. (Currently Amended) The ~~article~~ medical device of Claim 61, wherein the coating covers part of at least one surface of the substrate and does not cover another part of the surface.

63. (Currently Amended) The ~~article~~ medical device of Claim 62, wherein the part of the surface that is not covered is sufficiently transparent to allow visual inspection of the interior of the article.

64. (Currently Amended) The ~~article~~ medical device of Claim 38 61, wherein the coating comprises multiple coating layers.

65. (Currently Amended) The ~~article~~ medical device of Claim 38 61, wherein the oligodynamic metal compounds are present in a concentration from about 10 to about 15 micrograms per square centimeter of surface area of the medical device.

66. (Currently Amended) A method for the manufacture of a medical device comprising:

forming a solution, dispersion, or combination thereof comprising the composition of Claim 4 38; and

drying the solution, dispersion or combination thereof to create a solid polymeric medical device,

wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, and or pacemaker leads.

67. (Currently Amended) A method for the manufacture of a medical device comprising:

forming the composition of Claim 4 38;
drying the composition; and
processing the composition with the application of heat to form the medical device,

wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, ~~and~~ or pacemaker leads.

68. (Currently Amended) A method for the manufacture of a medical device comprising:

(1) forming the composition of Claim 4 38;
(2) compounding the composition formed in (1) with one or more polymers;
and
(3) processing the composition formed in (2) with the application of heat to form the medical device,

wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, ~~and~~ or pacemaker leads.

69. (Currently Amended) A method for the manufacture of a medical device comprising dipping a form in the composition of Claim 4 38, wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, ~~and~~ or pacemaker leads.

70. (Currently Amended) A method for the manufacture of a medical device comprising casting the composition of Claim 4 38 into a preselected shape, wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, ~~and~~ or pacemaker leads.

71. (Currently Amended) A method for delivery of more than one oligodynamic metal, salts of oligodynamic metals, oxides of oligodynamic metals, or combinations thereof to a desired location comprising:

providing the composition of Claim 4 38, and

implanting, administering, inserting, or otherwise placing the composition under conditions effective to deliver the oligodynamic metals, salts of oligodynamic metals, oxides of oligodynamic metals, or combinations thereof to the desired location in an organism.

72. (Currently Amended) A method of treatment of a cell, tissue, or organism, comprising implanting, administering, inserting, or otherwise placing the composition of Claim 4 38 under conditions effective to deliver the oligodynamic metals, salts of oligodynamic metals, oxides of oligodynamic metals, or combinations thereof to the cell, tissue, organism, or a portion of the cell, tissue, or organism.

73. (Currently Amended) A method of preparing a medical device for delivery of the oligodynamic metals, salts of oligodynamic metals, oxides of oligodynamic metals, or combinations thereof to a cell, tissue, organism, or a portion of the cell, tissue, or organism, the method comprising:

providing the composition of Claim 4 38; and

coating the medical device with said composition, wherein the medical device is chosen from: catheters, cannulae, stents, guide wires, implant devices, contact lenses, IUDs, peristaltic pump chambers, endotracheal tubes, gastroenteric feeding tubes, arteriovenous shunts, condoms, oxygenator and kidney membranes, ~~and~~ or pacemaker leads.